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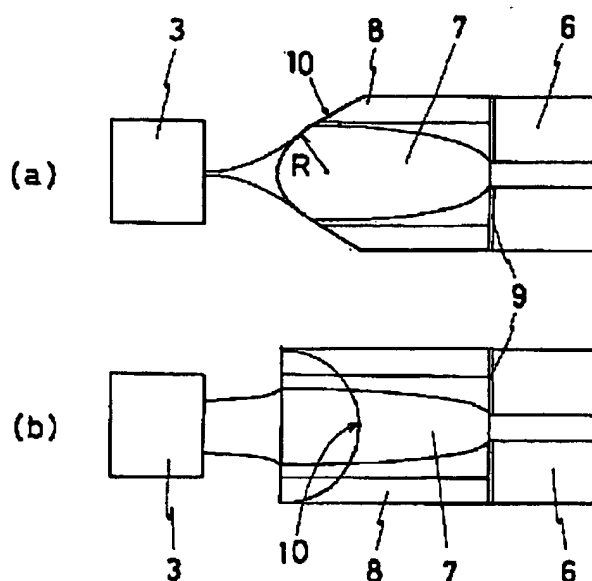
APPLICATION NUMBER : 11111448

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TITLE : OPTICAL FIBER WITH END LENS



ABSTRACT : **PROBLEM TO BE SOLVED:** To improve the coupling efficiency among mutual constitutional members by forming one end of a multimode fiber in a wedge shape provided with a slant cross surface, working the tip into a cylindrical curved convex surface having a desirable curvature, and letting the core part have a distribution of reflective indexes.

SOLUTION: To a single mode fiber 6, a multi-mode fiber 8 in which its core 7 has a square type distribution of reflective indexes is connected at a connecting part 9 by fusing or sticking. Next, by providing a slant cross surface 10 at the tip of the other end, an appearance is formed into a wedge shape. Further a fiber with an end lens is constituted by forming a curved surface R with a semi-cylindrical tip having desirable curvature at a fiber tip 11. Consequently a shape of a spot can be made into substantially a circle from an ellipse. Additionally, a wave front can be flattened by the semi-cylindrical fiber edge of the tip and substantially the same size as a core radius of the single mode fiber by reducing the spot size with the slant cross part of the reflective index distribution fiber.

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